



# Electro Optical Components, Inc.

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## GIPO-SAU Series

**High voltage pulse generator (stand-alone unit configuration with instrumented front panel)**

**Patented – Under licence from the French “Commissariat à l’Energie Atomique” (C.E.A.)**

*2 standard models*

**Pulse rising edge : 2.5ns typically on a load of 2pF**

**Vout : -500V to -5.5kV**

**Vin : 24Vdc**

**Reference : GIPOSAU24N552106-10**

**or Vin : universal 85-264Vac**

**Reference : GIPOSAU-N552106-10**



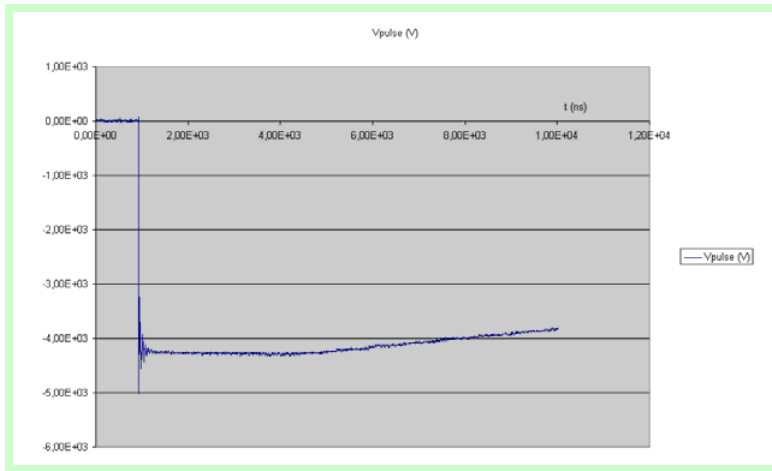
The GIPO-SAU product is the instrumented version of the GIPO. It features a clear screen display control panel. The GIPO that is included inside the box is basically composed of an adjustable high voltage dc/dc converter and a high speed, high voltage switch. The stability of the high voltage power supply integrated in the module is very high (10ppm/°C). This device is able to switch 5.5kV in less than 3ns. Pulse width, voltage and repetition rates can be adjusted by the user. For stand-alone operation, the amplitude of the HV pulse is set thanks to a potentiometer. For remote control operation, the equipment is fitted with an input for external 0/10V analogue signal. This equipment is fully qualified and has been tested by some of the most important players in the optical and photonics domain.

- output voltages to -5.5kV
- stand alone configuration
- negative polarity
- fast commutation : -5.5kV in <3ns
- adjustable pulse width from 200ns to 30µs
- clear information display on front panel
- for capacitive loads
- local and distant operations
- protection against polarity inversion and shortcuts

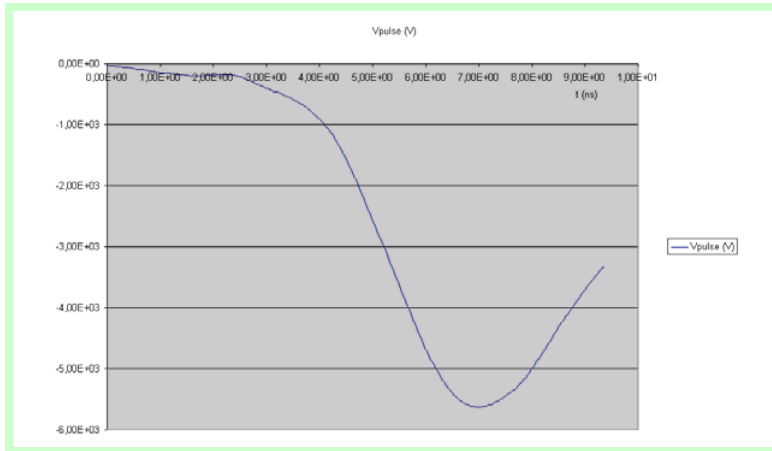
Parameters	Specifications	Possible Applications
Input voltage Vin	<ul style="list-style-type: none"> <li>▪ solution 1: DC 24Vdc ±2Vdc with 24V input indicator</li> <li>▪ solution 2: universal 85-264Vac + mains ON/OFF switch on rear panel with main power indicator</li> </ul>	<ul style="list-style-type: none"> <li>▪ Flash Lamps Triggers</li> <li>▪ Intensified CCDs</li> <li>▪ Laser Diodes Drivers</li> <li>▪ Multi Channel Plates</li> <li>▪ Pockel Cells Drivers</li> </ul>
Output voltage Vout	continuously adjustable from -500V to -5500V	
Pulse rising edge	2.5ns typically on a load of 2pF	
Output signal width	continuously variable from 200ns to 30µs	
Jitter	<200ps	
Repetition rate	up to 100Hz	
Polarity	fixed negative	
High Voltage assembly	<ul style="list-style-type: none"> <li>▪ the bench top case integrates a GIPO block plus facilities</li> <li>▪ pulse output connector: high voltage safety SHV RADIALL R317-580 on front panel</li> </ul>	
Controls and metering on front panel	<ul style="list-style-type: none"> <li>▪ high voltage ON/OFF switch and indicator</li> <li>▪ high voltage panel meter by 3.5 digits digital meters</li> <li>▪ output voltage setting via 10-turn potentiometers with turns-counting dial</li> <li>▪ output pulse width setting via 10-turn potentiometers with turns-counting dial</li> <li>▪ output pulse frequency setting via 10-turn potentiometers with turns-counting dial</li> <li>▪ push-button for one shot manual triggering</li> <li>▪ selection switch for the internal/external/manual mode</li> <li>▪ pulse inhibits switch and indicator</li> <li>▪ standard SHV 50Ω input for external trigger</li> <li>▪ standard SHV 50Ω output for pulse synchronization</li> </ul>	
Internal mode	output pulse width and frequency are controlled by front panel potentiometers	
External mode	<ul style="list-style-type: none"> <li>▪ output pulse width and frequency are controlled by standard SHV trigger input</li> <li>▪ output voltage and monitoring are controlled through SUB-D connector on rear panel</li> </ul>	
Manual mode	output pulse width controlled by front panel potentiometer, triggered by front panel pushbutton	
MTBF	>700800 hours @25°C	
Controls on rear panel	<ul style="list-style-type: none"> <li>▪ input 24Vdc through BR2 connector (optional)</li> <li>▪ fuse for 24Vdc : 2,5A temporized (optional)</li> <li>▪ fuse for 230Vac : 0,5A temporized</li> <li>▪ mains ON/OFF switch</li> <li>▪ SUB-D connector</li> <li>▪ screw plug for grounding</li> </ul>	
Operating temperature	0°C to +40°C	
Storage temperature	-10°C to +70°C	
Provided accessories	specific coaxial shielded cable for high voltage equipped on one end with a SHV plug of safety RADIALL R317-074.	

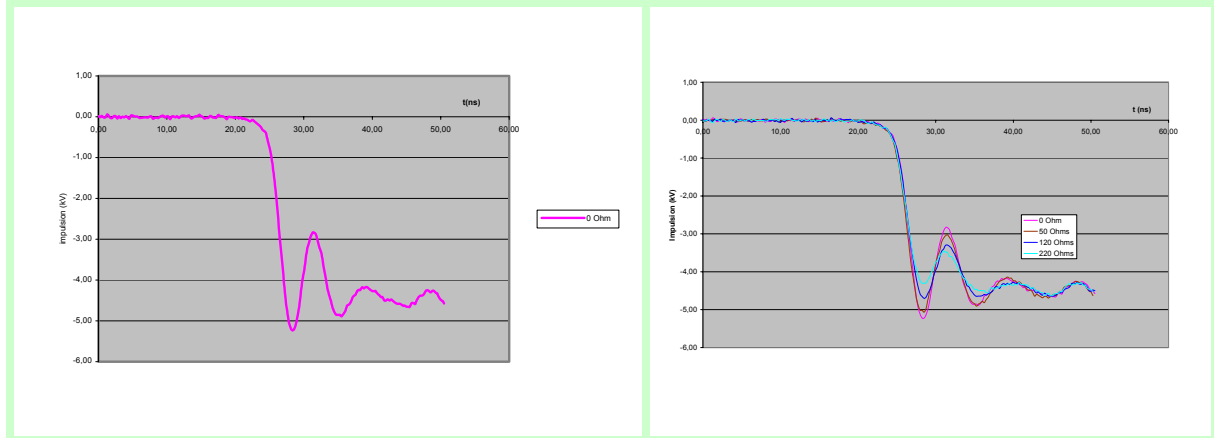
Package Configuration	
Case	box 2U 42E
Dimensions LxHxW	257 x 103 x 313 mm
Weight	2.7kg



**Fig.1 : overall view**



**Fig.2 : detail of the falling edge**



**Fig.3 : rebound**

**Fig.4 : a resistor in series with the Pockel's cell can smooth the rebound - test with several values of resistors**



This High Voltage power supply satisfies the requirements of EC Directives Safety EN 61010-1 2001 Edition & EMC EN 61326-1: 1977 + A1: 1998 + A2: 2001 + A3 : 2004